CLAIMS:

1. A method for detecting fires according to the scattered light principle, comprising:

(a) emitting pulsed radiation of a first wavelength along a first radiation axis into a measuring volume;

(b) emitting pulsed radiation of a second wavelength which is shorter than the first wavelength along a second radiation axis into the measuring volume; and

(c) measuring radiation scattered on particles located in the measuring volume under a forward scattering angle of more than 90° and under a backward scattering angle of less than 90°, wherein forward scattered radiations and backward scattered radiations of the first and second wavelengths are measured separately from each other.

2. A method as claimed in claim 1, further comprising:

(d) subtracting from signal levels which correspond to measured intensities of the forward and backward scattered radiations of the first and second wavelengths, corresponding scaled quiescent value levels to produce weighted values;

(e) evaluating the weighted values to determine whether an alarm condition exists; and

(f) producing at least one alarm signal in response to the determining that an alarm condition exists.

3. A method as claimed in claim 2, wherein (e) further includes:

(e1) forming a first ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the first wavelength;

(e2) forming a second ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the second wavelength; and

(e3) evaluating the first and second ratios to determine whether an alarm condition exists.

4. A method as claimed in claim 2, wherein (e) includes:

(e1) forming a first ratio between the weighted values of the forward scattered radiation intensities of the first and the second wavelengths;

(e2) forming a second ratio between the weighted values of the backward scattered radiation intensities of the first and second wavelengths; and

(e3) evaluating the first and second ratios to determine whether an alarm condition exists.

5. A method as claimed in claim 1, wherein the forward scattered radiations of the first and the second wavelengths are measured under the same forward scattering angle, and the backward scattered radiations of the first and second wavelengths are measured under the same backward scattering angle.

6. A method as claimed in claim 1, wherein the scattered radiations of the first and second wavelengths are measured on opposite sides of the measuring volume on a same main axis.

7. A method as claimed in claim 1, wherein the scattered radiations of the first and second wavelengths are emitted into the measuring volume from opposite sides along coinciding radiation axes.

8. A method as claimed in claim 1, wherein the first wavelength and the second wavelength are not in an integral ratio with respect to each other.

9. A method as claimed in claim 1, wherein the first wavelength lies in the region of the infrared radiation and the second wavelength lies in the region of blue light or the region of ultraviolet radiation.

10. A method as claimed in claim 1, wherein the first wavelength is in the region of 880 nm and the second wavelength is in the region of 475 nm or the region of 370 nm.

11. A method as claimed in claim 1, wherein a pulse/pause ratio of the radiation of the first and the second wavelengths is greater than 1:10,000.

12. A method as claimed in claim 11, wherein the pulse/pause ratio of the radiation of the first and the second wavelengths is approximately 1:20,000.

13. A scattered-light fire detector comprising:

a measuring chamber which communicates with the ambient air and which delimits a measuring volume;

a first light emitting diode (LED) that emits infrared radiation into the measuring volume;

a second LED that emits blue light into the measuring volume from a different direction than the first LED;

first and second photodetectors situated opposite of each other on a common main axis with respect to each other and which measure the radiation scattered by particles situated in the measuring volume, wherein radiation axes of the first and second LEDs enclose an acute angle of less than 90° with the main axis and intersect in a point which is situated on the main axis and is situated in the center of the measuring volume.

14. A detector as claimed in claim 13, wherein the first and second LEDs are arranged on the same side of the main axis.

15. A detector as claimed in claim 13, wherein the first and second LEDs are arranged symmetrically to the main axis.

16. A detector as claimed in claim 13, wherein the first and second LEDS are arranged in a point-symmetrical fashion to the center of the measuring volume, so that radiation axes of the first and second LEDs coincide.

17. A detector as claimed in claim 13, wherein radiation axes of the first and second LEDs each enclose with the main axis an acute angle of approximately 60°.

18. A detector as claimed in claim 13, further comprising:

tube bodies housing each of the first and second LEDs and each of the first and second photodetectors; and

diaphragms and radiation traps arranged in the measuring chamber outside of the measuring volume between the first and second LEDs and the first and second photodetectors.

19. A detector as claimed in claim 13, wherein the first photodetector receives the forward scattered radiation of the first LED and the backward scattered radiation of the second LED and the second photodetector receives the backward scattered radiation of the first LED and the forward scattered radiation of the second LED.